PRICE TRENDS FOR MAJOR ROADWAY INPUTS

February 2007 Update

Prepared by:

John Semmens
Arizona Transportation Research Center
206 S. 17 Ave., MD 075R
Phoenix, Arizona 85007

REPORT DATA

The data for this report is obtained from U.S. Department of Labor Bureau of Labor Statistics' web site at http://www.bls.gov/data/. The specific items used were as follows:

Item	Code #
Asphalt	WPU05810112
Construction Labor	CEU2023700006
Diesel #2	WPU05730302
Gasoline	WPU0571
Lumber	WPU081
Plastic Construction Products	WPU072106
Portland Cement	WPU13220161
Steel Rebar	WPU101708
Highway and Street Construction	PCUBHWY

REMAINDER OF THE REPORT

The remainder of this report portrays and discusses: (1) short term price fluctuations, (2) the longer term trend in prices. Numerous graphs depict the price trends. A full set of data for all items covered in this report is shown in the Appendix.

SHORT TERM FLUCTUATIONS

The purpose of this section is to provide users with information that may help explain differences that may exist between the state estimate and the actual winning bid for a project. State estimates are prepared approximately 3 months prior to the due date for bids. If prices of key components of construction are volatile, the differences between the state's estimate and bid price for a project may be substantial.

As shown in Figure 1, over the most recent time span, prices were "soft." Asphalt showed the largest fluctuation—declining by 30% for the 3-month period.

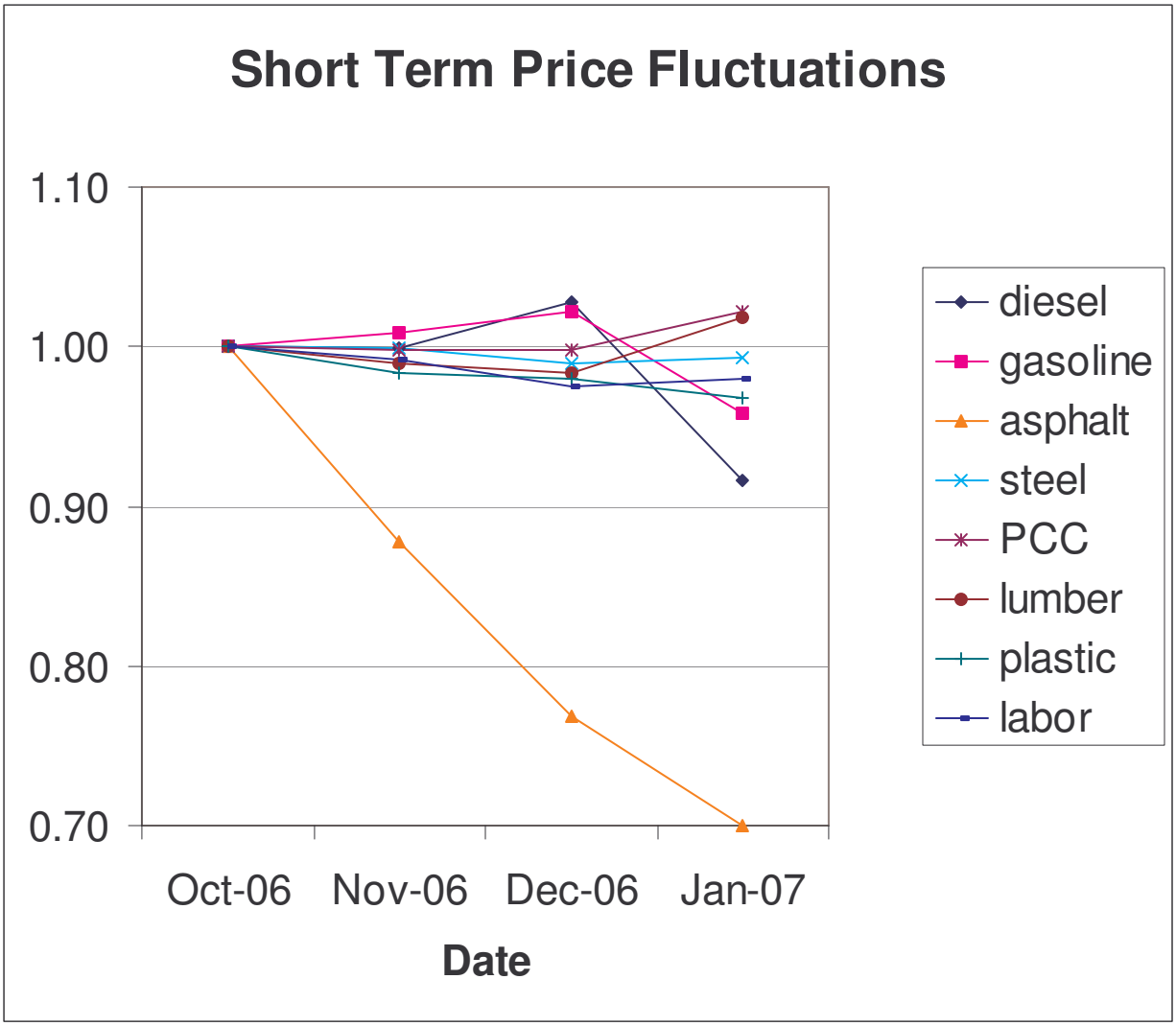


Figure 1. Short Term Price Fluctuations

	Asphalt	Diesel	Gasoline	Labor	Lumber	PCC	Plastic	Steel
Oct-06 to Nov-06	-12%	0%	+1%	-1%	-1%	0%	-2%	0%
Oct-06 to Dec-06	-23%	+3%	+2%	-2%	-2%	0%	-2%	-1%
Oct-06 to Jan-07	-30%	-8%	-4%	-2%	+2%	+2%	-3%	-1%

LONG TERM FLUCTUATIONS

The purpose of this section is to give users a quick look at the relative changes in prices over the time spans of 1-year, 5-years, and 10-years. This gives a sense for which items have been the largest factors affecting the cost of construction projects over time.

1-YEAR

Over the last year, asphalt prices have increased the most (36%). Lumber has actually declined in price (-11%). Overall, construction costs have risen by 3%.

5-YEARS

Over the last 5 years, diesel prices rose the most (207%). Lumber prices rose the least (5%). Overall, construction costs have risen by 37%.

10-YEARS

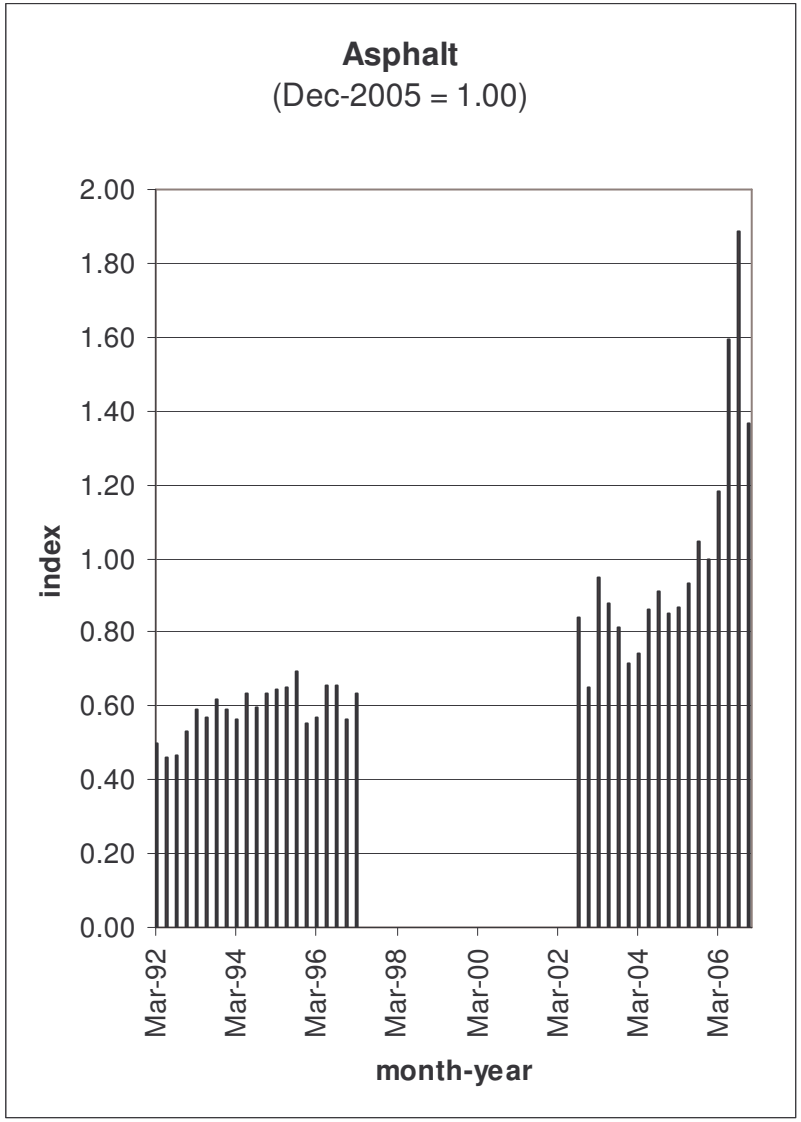
Over the last 10 years, diesel prices rose the most (147%). Lumber has actually declined in price (-7%). Overall, construction costs have risen by 46%.

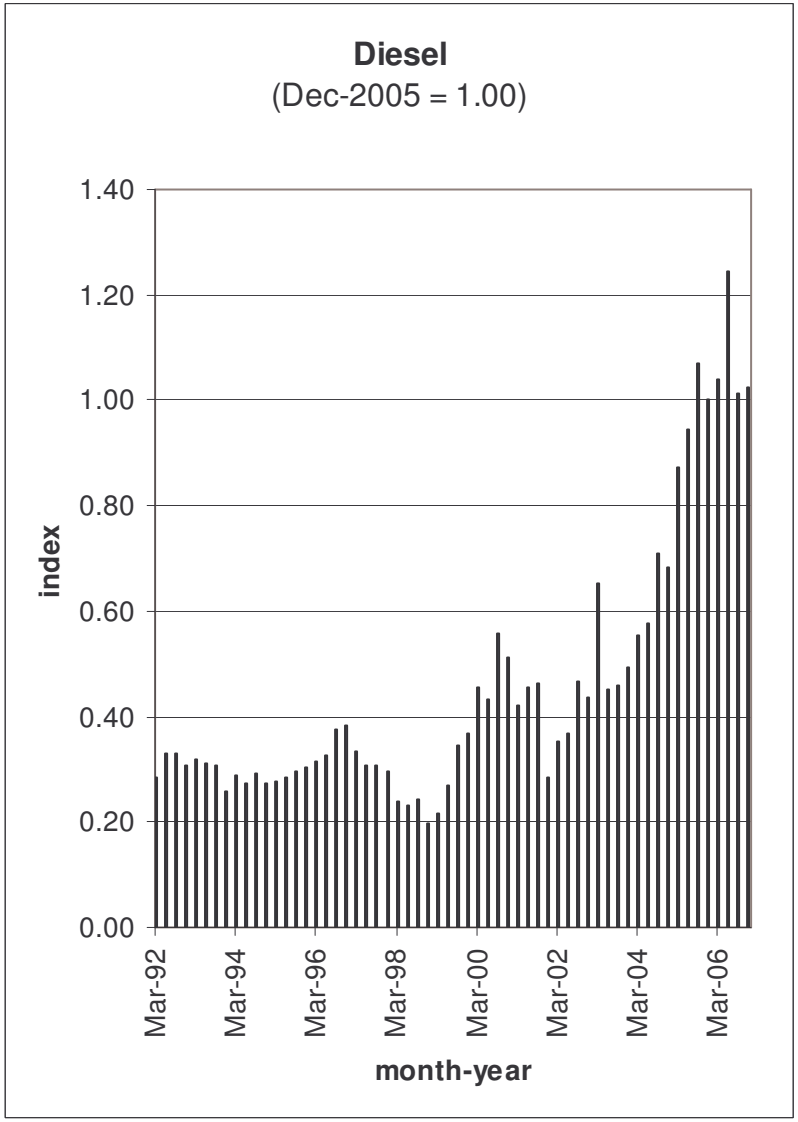
	Asphalt	Diesel	Gasoline	Labor	Lumber	PCC	Plastic	Steel	Overall
1 year	+18%	-8%	-10%	+4%	-11%	+7%	-3%	+0%	+3%
5 years	*	+207%	+160%	+18%	+5%	+37%	+37%	+53%	+37%
10 years	*	+147%	+111%	+39%	-7%	+51%	+39%	+45%	+46%
* There is a gap in the data for asphalt that prevents a calculation of the price change over this time span.									

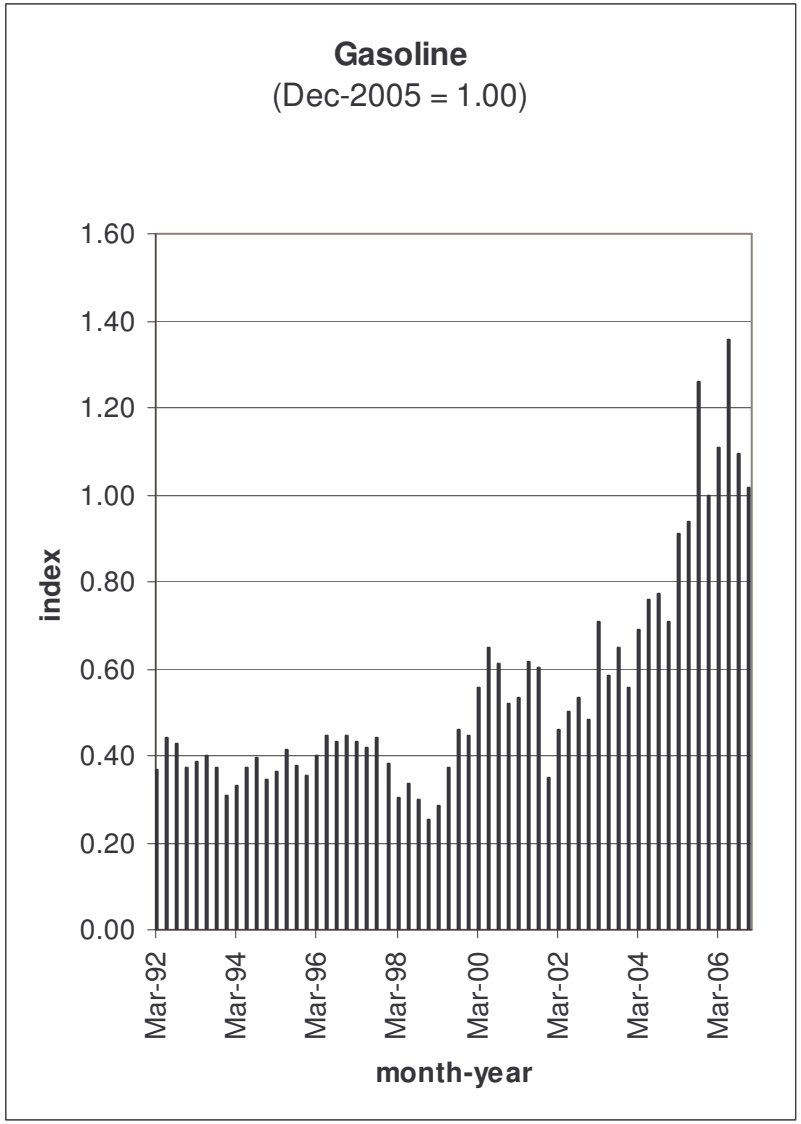
The long term graphs for each commodity and the overall index appear on the following pages. The full data set is in the Appendix.

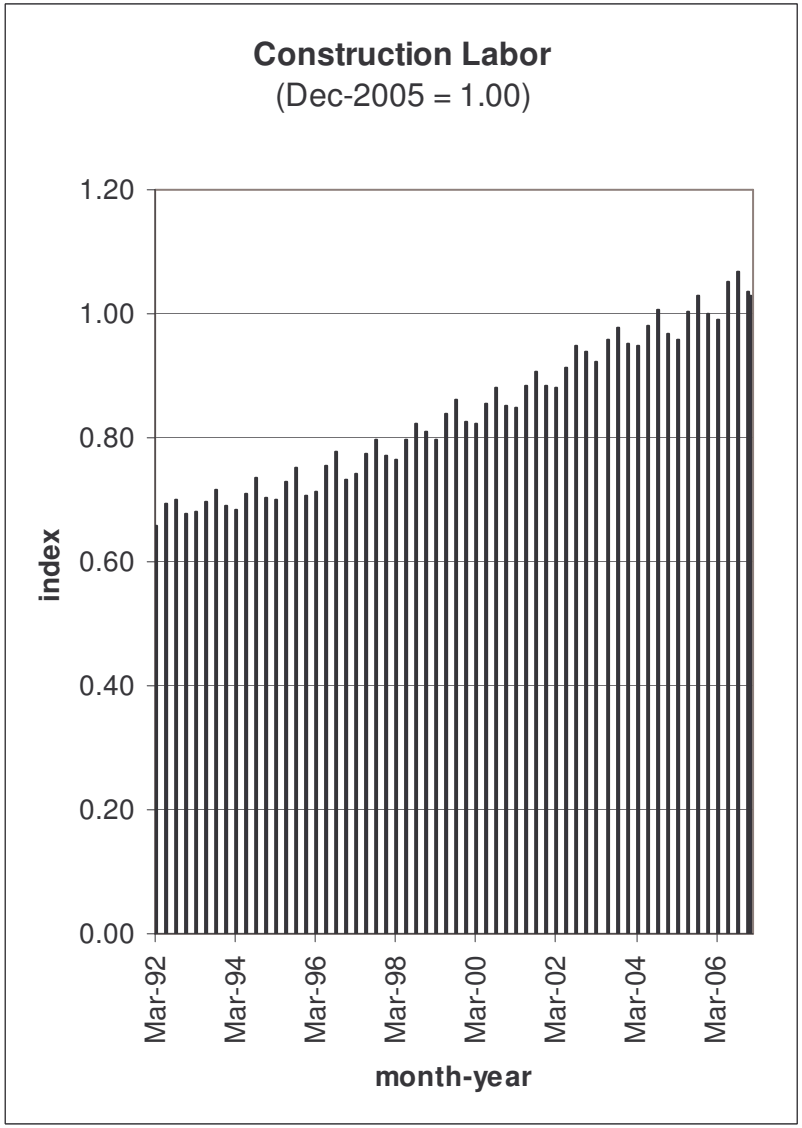
TREND

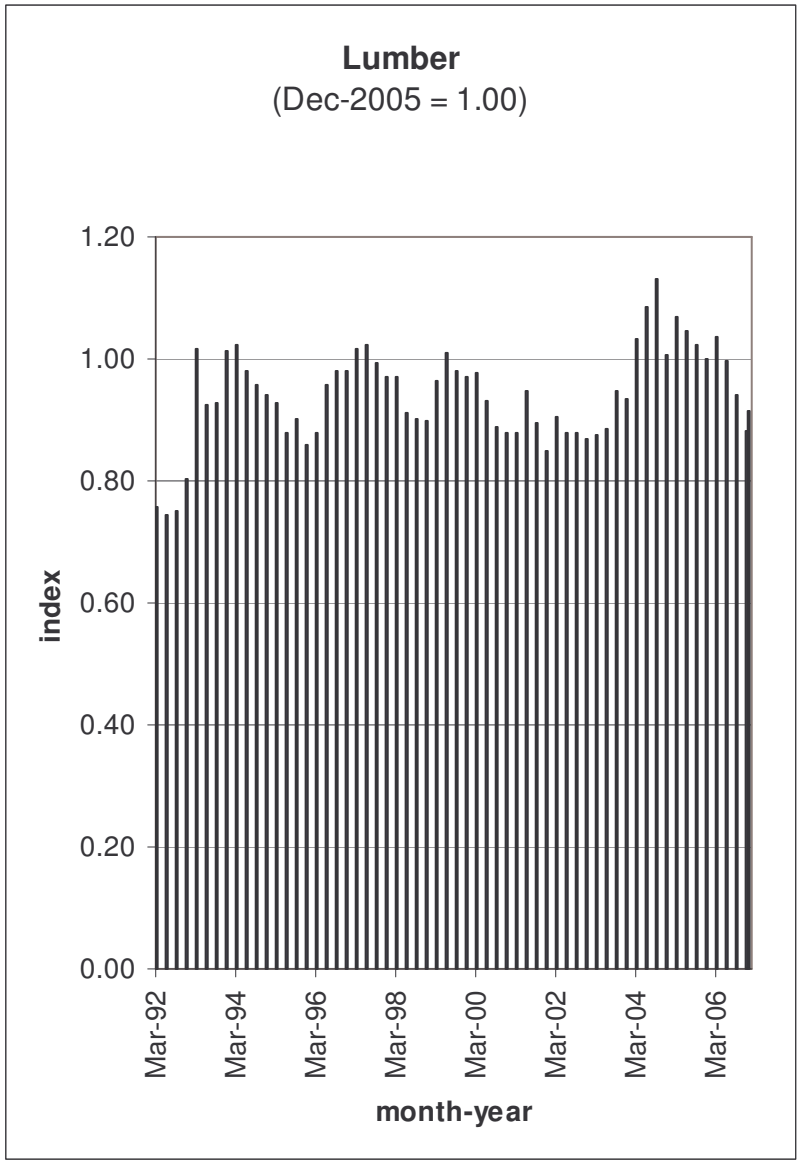
The general pattern over the period covered (1992 to the present) shows a moderate rate of price increases for the first 10 years and an accelerated rate of increases for the most recent 5-year period. Whether this acceleration portends a permanent trend of more rapid growth in construction costs or whether the trend will return to its longer term average is uncertain.

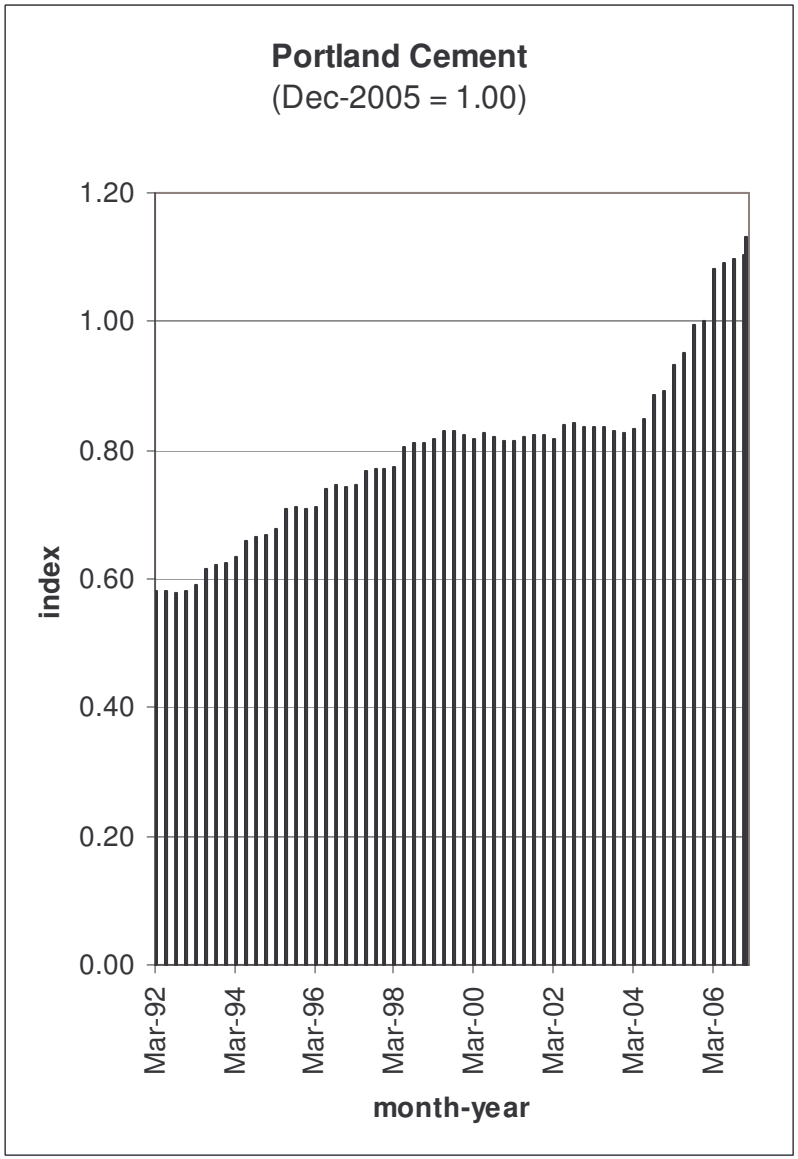

Asphalt
(Dec-2005 = 1.00)
index
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
Mar-92
Mar-94
Mar-96
Mar-98
Mar-00
Mar-02
Mar-04
Mar-06
month-year

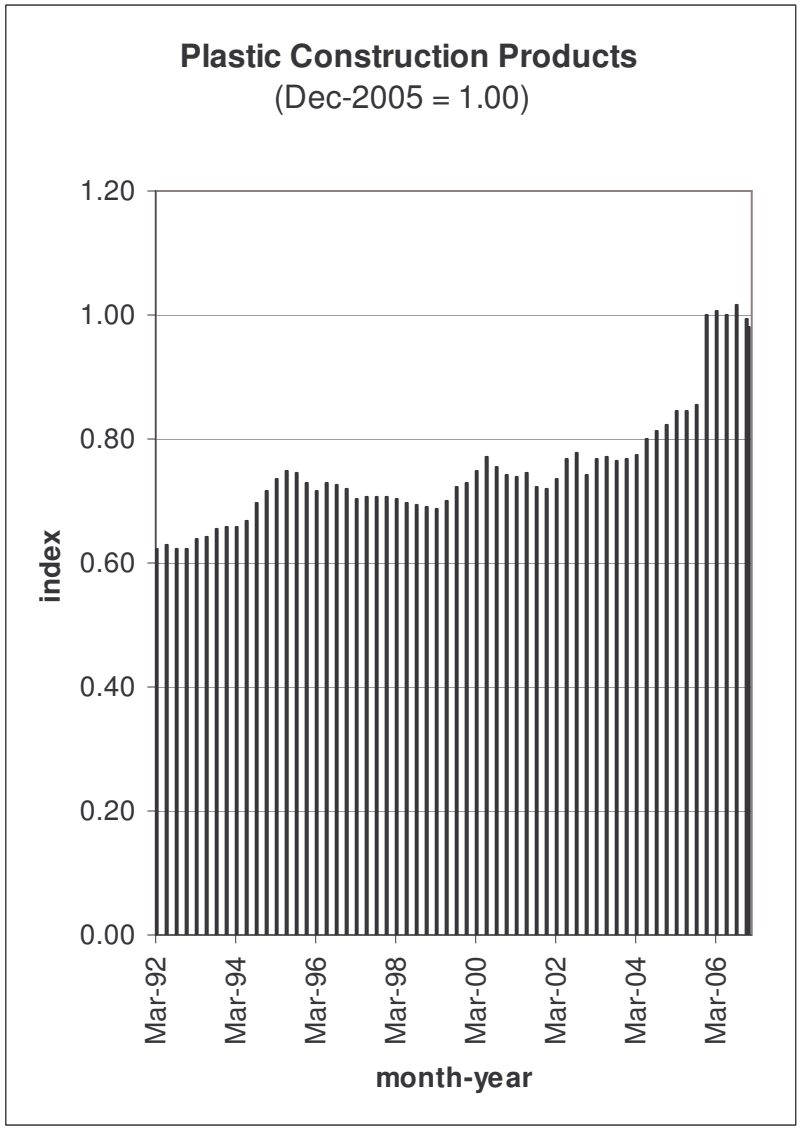

Diesel
(Dec-2005 = 1.00)
index
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
Mar-92
Mar-94
Mar-96
Mar-98
Mar-00
Mar-02
Mar-04
Mar-06
month-year

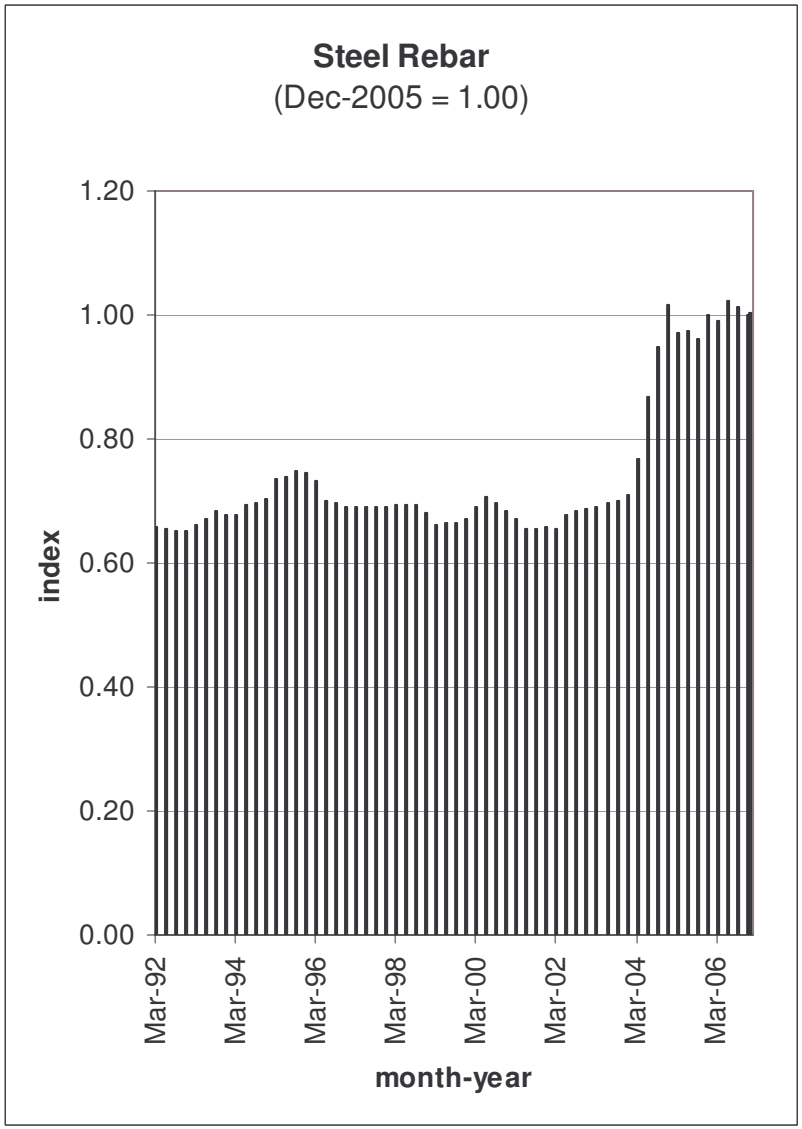

Gasoline
(Dec-2005 = 1.00)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
index
Mar-92
Mar-94
Mar-96
Mar-98
Mar-00
Mar-02
Mar-04
Mar-06
month-year

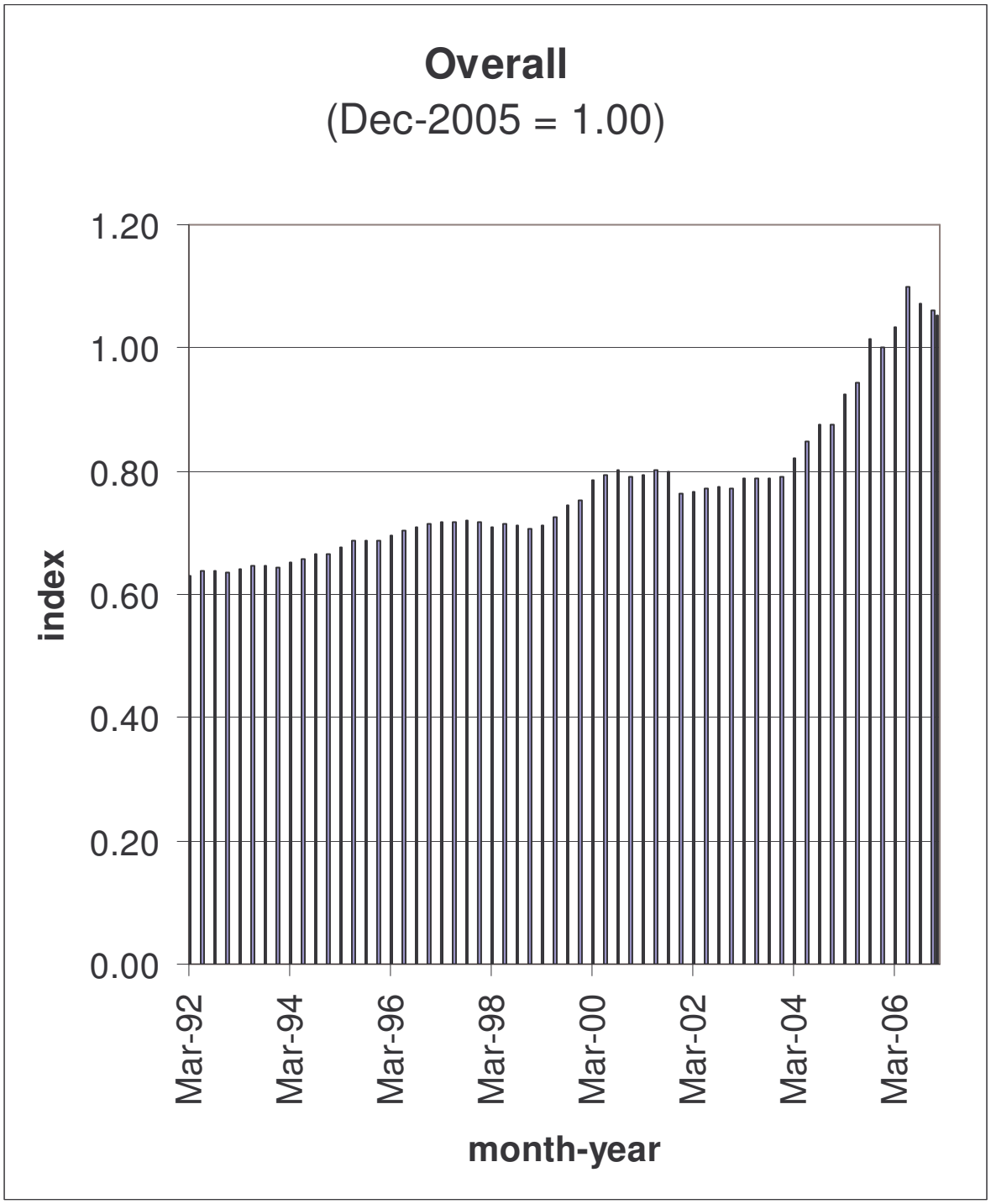

Construction Labor
(Dec-2005 = 1.00)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
index
Mar-92
Mar-94
Mar-96
Mar-98
Mar-00
Mar-02
Mar-04
Mar-06
month-year


Lumber
(Dec-2005 = 1.00)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
index
Mar-92
Mar-94
Mar-96
Mar-98
Mar-00
Mar-02
Mar-04
Mar-06
month-year


Portland Cement
(Dec-2005 = 1.00)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
index
Mar-92
Mar-94
Mar-96
Mar-98
Mar-00
Mar-02
Mar-04
Mar-06
month-year


Plastic Construction Products
(Dec-2005 = 1.00)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
index
Mar-92
Mar-94
Mar-96
Mar-98
Mar-00
Mar-02
Mar-04
Mar-06
month-year


Steel Rebar
(Dec-2005 = 1.00)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
index
Mar-92
Mar-94
Mar-96
Mar-98
Mar-00
Mar-02
Mar-04
Mar-06
month-year


Overall
(Dec-2005 = 1.00)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
index
Mar-92
Mar-94
Mar-96
Mar-98
Mar-00
Mar-02
Mar-04
Mar-06
month-year

Appendix: Dataset

(Dec-2005 = 1.00)

Date	Diesel	Gasoline	Asphalt	Steel Rebar	Portland Cement Concrete	Lumber	Plastic Construction Products	Construction Labor	Overall
Jan-92	0.28	0.36	0.47	0.66	0.59	0.68	0.61	0.66	0.63
Feb-92	0.29	0.36	0.46	0.66	0.58	0.73	0.61	0.65	0.63
Mar-92	0.28	0.37	0.50	0.66	0.58	0.76	0.62	0.66	0.63
Apr-92	0.29	0.39	0.50	0.66	0.58	0.77	0.62	0.67	0.63
May-92	0.31	0.42	0.50	0.66	0.58	0.77	0.63	0.69	0.63
Jun-92	0.33	0.44	0.46	0.66	0.58	0.75	0.63	0.69	0.64
Jul-92	0.33	0.42	0.48	0.66	0.58	0.74	0.63	0.69	0.64
Aug-92	0.32	0.42	0.49	0.66	0.58	0.73	0.62	0.70	0.64
Sep-92	0.33	0.43	0.47	0.65	0.58	0.75	0.62	0.70	0.64
Oct-92	0.34	0.42	0.53	0.66	0.58	0.74	0.62	0.70	0.64
Nov-92	0.33	0.41	0.56	0.66	0.58	0.76	0.62	0.69	0.64
Dec-92	0.31	0.37	0.53	0.65	0.58	0.80	0.62	0.68	0.63
Jan-93	0.31	0.37	0.61	0.65	0.59	0.85	0.63	0.66	0.64
Feb-93	0.30	0.38	0.59	0.66	0.59	0.94	0.63	0.66	0.64
Mar-93	0.32	0.39	0.59	0.66	0.59	1.02	0.64	0.68	0.64
Apr-93	0.32	0.40	0.63	0.66	0.61	1.02	0.64	0.68	0.64
May-93	0.32	0.41	0.62	0.67	0.61	0.98	0.64	0.70	0.65
Jun-93	0.31	0.40	0.57	0.67	0.62	0.92	0.64	0.70	0.65
Jul-93	0.29	0.38	0.62	0.68	0.62	0.89	0.65	0.70	0.64
Aug-93	0.28	0.38	0.61	0.68	0.62	0.91	0.65	0.71	0.64
Sep-93	0.31	0.37	0.62	0.68	0.62	0.93	0.65	0.72	0.65
Oct-93	0.33	0.37	0.59	0.67	0.62	0.94	0.66	0.72	0.65
Nov-93	0.32	0.36	0.63	0.68	0.63	0.98	0.66	0.71	0.65
Dec-93	0.26	0.31	0.59	0.68	0.62	1.01	0.66	0.69	0.64
Jan-94	0.26	0.31	0.60	0.68	0.63	1.05	0.66	0.68	0.65
Feb-94	0.28	0.33	0.61	0.68	0.63	1.02	0.66	0.68	0.65
Mar-94	0.29	0.33	0.57	0.68	0.64	1.02	0.66	0.68	0.65
Apr-94	0.28	0.35	0.57	0.68	0.65	0.97	0.66	0.69	0.65
May-94	0.28	0.36	0.66	0.69	0.65	0.96	0.67	0.71	0.65
Jun-94	0.27	0.37	0.63	0.69	0.66	0.98	0.67	0.71	0.66
Jul-94	0.28	0.39	0.65	0.70	0.66	0.95	0.67	0.72	0.66
Aug-94	0.29	0.43	0.61	0.70	0.67	0.96	0.68	0.72	0.67
Sep-94	0.29	0.39	0.60	0.70	0.67	0.96	0.70	0.73	0.67
Oct-94	0.29	0.37	0.63	0.70	0.67	0.94	0.71	0.74	0.66
Nov-94	0.30	0.38	0.65	0.70	0.67	0.95	0.71	0.72	0.67
Dec-94	0.27	0.34	0.64	0.70	0.67	0.94	0.72	0.70	0.67
Jan-95	0.27	0.35	0.64	0.71	0.68	0.94	0.72	0.68	0.67
Feb-95	0.27	0.36	0.64	0.72	0.68	0.92	0.73	0.70	0.67
Mar-95	0.28	0.36	0.65	0.74	0.68	0.93	0.73	0.70	0.68
Apr-95	0.29	0.40	0.74	0.74	0.71	0.91	0.75	0.71	0.68
May-95	0.30	0.42	0.68	0.74	0.71	0.90	0.75	0.72	0.69
Jun-95	0.29	0.42	0.65	0.74	0.71	0.88	0.75	0.73	0.69
Jul-95	0.27	0.39	0.65	0.75	0.71	0.90	0.75	0.74	0.69
Aug-95	0.28	0.38	0.66	0.75	0.71	0.89	0.75	0.74	0.69
Sep-95	0.29	0.38	0.69	0.75	0.71	0.90	0.75	0.75	0.69
Oct-95	0.30	0.36	0.67	0.75	0.71	0.89	0.74	0.75	0.68
Nov-95	0.30	0.34	0.60	0.74	0.71	0.86	0.73	0.73	0.68

Date	Diesel	Gasoline	Asphalt	Steel Rebar	Portland Cement Concrete	Lumber	Plastic Construction Products	Construction Labor	Overall
Dec-95	0.30	0.35	0.56	0.74	0.71	0.86	0.73	0.71	0.69
Jan-96	0.31	0.38	0.60	0.74	0.71	0.86	0.72	0.72	0.69
Feb-96	0.30	0.37	0.61	0.74	0.71	0.86	0.72	0.71	0.69
Mar-96	0.32	0.40	0.57	0.73	0.71	0.88	0.72	0.71	0.70
Apr-96	0.38	0.45	0.59	0.70	0.73	0.89	0.72	0.73	0.70
May-96	0.38	0.47	0.60	0.70	0.74	0.94	0.72	0.74	0.71
Jun-96	0.33	0.45	0.65	0.70	0.74	0.96	0.73	0.75	0.70
Jul-96	0.33	0.43	0.68	0.70	0.74	0.94	0.73	0.77	0.70
Aug-96	0.34	0.43	0.67	0.70	0.74	0.95	0.73	0.77	0.71
Sep-96	0.38	0.43	0.66	0.70	0.75	0.98	0.73	0.78	0.71
Oct-96	0.40	0.44	0.62	0.69	0.75	0.95	0.72	0.78	0.71
Nov-96	0.39	0.45	0.62	0.69	0.75	0.98	0.73	0.76	0.71
Dec-96	0.38	0.45	0.57	0.69	0.74	0.98	0.72	0.73	0.72
Jan-97	0.37	0.45	0.00	0.69	0.75	0.98	0.71	0.74	0.72
Feb-97	0.37	0.44	0.64	0.69	0.75	1.01	0.71	0.74	0.72
Mar-97	0.33	0.43	0.63	0.69	0.75	1.02	0.70	0.74	0.72
Apr-97	0.33	0.43	0.62	0.69	0.76	1.03	0.71	0.75	0.72
May-97	0.32	0.43	0.00	0.69	0.76	1.05	0.71	0.77	0.72
Jun-97	0.31	0.42	0.00	0.69	0.77	1.02	0.71	0.77	0.72
Jul-97	0.29	0.41	0.00	0.69	0.77	1.03	0.71	0.78	0.72
Aug-97	0.31	0.43	0.00	0.69	0.77	1.02	0.71	0.79	0.72
Sep-97	0.31	0.44	0.00	0.69	0.77	0.99	0.71	0.80	0.72
Oct-97	0.33	0.41	0.00	0.69	0.77	0.97	0.71	0.80	0.72
Nov-97	0.33	0.40	0.00	0.69	0.77	0.98	0.71	0.78	0.72
Dec-97	0.30	0.38	0.00	0.69	0.77	0.97	0.71	0.77	0.72
Jan-98	0.27	0.35	0.00	0.69	0.77	0.96	0.71	0.75	0.71
Feb-98	0.26	0.33	0.00	0.69	0.77	0.97	0.70	0.76	0.71
Mar-98	0.24	0.30	0.00	0.69	0.77	0.97	0.70	0.76	0.71
Apr-98	0.25	0.32	0.00	0.69	0.80	0.97	0.70	0.77	0.71
May-98	0.25	0.34	0.00	0.69	0.80	0.95	0.70	0.79	0.72
Jun-98	0.23	0.34	0.00	0.69	0.80	0.91	0.70	0.80	0.71
Jul-98	0.22	0.33	0.00	0.69	0.81	0.93	0.69	0.82	0.72
Aug-98	0.22	0.30	0.00	0.69	0.81	0.93	0.69	0.82	0.71
Sep-98	0.24	0.30	0.00	0.69	0.81	0.90	0.69	0.82	0.71
Oct-98	0.24	0.31	0.00	0.69	0.81	0.89	0.69	0.83	0.71
Nov-98	0.23	0.29	0.00	0.68	0.81	0.88	0.69	0.82	0.71
Dec-98	0.20	0.25	0.00	0.68	0.81	0.90	0.69	0.81	0.71
Jan-99	0.20	0.27	0.00	0.68	0.82	0.92	0.69	0.79	0.71
Feb-99	0.19	0.26	0.00	0.66	0.82	0.94	0.69	0.79	0.71
Mar-99	0.22	0.28	0.00	0.66	0.82	0.96	0.69	0.80	0.71
Apr-99	0.27	0.38	0.00	0.67	0.82	0.96	0.69	0.81	0.72
May-99	0.27	0.39	0.00	0.67	0.83	0.98	0.70	0.83	0.73
Jun-99	0.27	0.37	0.00	0.67	0.83	1.01	0.70	0.84	0.73
Jul-99	0.30	0.41	0.00	0.66	0.83	1.05	0.71	0.85	0.73
Aug-99	0.33	0.44	0.00	0.66	0.83	1.01	0.72	0.85	0.74
Sep-99	0.35	0.46	0.00	0.66	0.83	0.98	0.72	0.86	0.74
Oct-99	0.34	0.43	0.00	0.67	0.83	0.95	0.72	0.86	0.74
Nov-99	0.36	0.43	0.00	0.67	0.83	0.96	0.73	0.84	0.75
Dec-99	0.37	0.44	0.00	0.67	0.82	0.97	0.73	0.82	0.75
Jan-00	0.38	0.45	0.00	0.69	0.82	0.98	0.73	0.82	0.76
Feb-00	0.43	0.51	0.00	0.69	0.82	0.98	0.74	0.81	0.77

Date	Diesel	Gasoline	Asphalt	Steel Rebar	Portland Cement Concrete	Lumber	Plastic Construction Products	Construction Labor	Overall
Mar-00	0.45	0.56	0.00	0.69	0.82	0.98	0.75	0.82	0.78
Apr-00	0.42	0.52	0.00	0.70	0.82	0.96	0.75	0.85	0.78
May-00	0.42	0.56	0.00	0.71	0.82	0.93	0.76	0.85	0.78
Jun-00	0.43	0.65	0.00	0.71	0.83	0.93	0.77	0.85	0.79
Jul-00	0.45	0.59	0.00	0.71	0.83	0.91	0.77	0.87	0.79
Aug-00	0.46	0.56	0.00	0.70	0.82	0.90	0.76	0.88	0.79
Sep-00	0.56	0.61	0.00	0.70	0.82	0.89	0.76	0.88	0.80
Oct-00	0.55	0.58	0.00	0.70	0.82	0.89	0.75	0.88	0.80
Nov-00	0.56	0.58	0.00	0.69	0.82	0.88	0.74	0.87	0.80
Dec-00	0.51	0.52	0.00	0.68	0.82	0.88	0.74	0.85	0.79
Jan-01	0.49	0.55	0.00	0.68	0.82	0.86	0.73	0.83	0.79
Feb-01	0.47	0.55	0.00	0.68	0.82	0.87	0.74	0.84	0.80
Mar-01	0.42	0.53	0.00	0.67	0.82	0.88	0.74	0.85	0.79
Apr-01	0.44	0.62	0.00	0.67	0.82	0.88	0.75	0.85	0.80
May-01	0.47	0.67	0.00	0.66	0.82	0.94	0.75	0.87	0.81
Jun-01	0.45	0.61	0.00	0.66	0.82	0.95	0.74	0.88	0.80
Jul-01	0.41	0.51	0.00	0.66	0.82	0.91	0.74	0.89	0.79
Aug-01	0.41	0.54	0.00	0.65	0.82	0.90	0.74	0.90	0.79
Sep-01	0.46	0.60	0.00	0.65	0.82	0.90	0.72	0.91	0.80
Oct-01	0.38	0.46	0.00	0.65	0.83	0.87	0.72	0.90	0.78
Nov-01	0.36	0.40	0.00	0.65	0.82	0.86	0.73	0.89	0.77
Dec-01	0.28	0.35	0.00	0.66	0.82	0.85	0.72	0.88	0.76
Jan-02	0.30	0.37	0.00	0.66	0.82	0.87	0.72	0.87	0.77
Feb-02	0.30	0.38	0.00	0.66	0.82	0.89	0.73	0.87	0.76
Mar-02	0.35	0.46	0.00	0.66	0.82	0.90	0.73	0.88	0.77
Apr-02	0.39	0.52	0.00	0.67	0.84	0.90	0.74	0.89	0.77
May-02	0.38	0.51	0.00	0.67	0.84	0.90	0.76	0.90	0.77
Jun-02	0.37	0.50	0.00	0.68	0.84	0.88	0.77	0.91	0.77
Jul-02	0.39	0.51	0.82	0.69	0.84	0.88	0.77	0.93	0.77
Aug-02	0.41	0.52	0.84	0.69	0.84	0.89	0.78	0.94	0.77
Sep-02	0.47	0.53	0.84	0.69	0.84	0.88	0.78	0.95	0.78
Oct-02	0.50	0.59	0.81	0.69	0.84	0.87	0.77	0.95	0.78
Nov-02	0.43	0.52	0.80	0.69	0.84	0.87	0.75	0.94	0.77
Dec-02	0.44	0.48	0.65	0.69	0.84	0.87	0.74	0.94	0.77
Jan-03	0.49	0.56	0.72	0.69	0.84	0.87	0.75	0.92	0.78
Feb-03	0.62	0.66	0.83	0.69	0.84	0.88	0.76	0.91	0.78
Mar-03	0.65	0.71	0.95	0.69	0.84	0.87	0.77	0.92	0.79
Apr-03	0.52	0.59	0.92	0.69	0.83	0.88	0.78	0.94	0.79
May-03	0.44	0.56	0.90	0.69	0.84	0.88	0.78	0.96	0.79
Jun-03	0.45	0.59	0.88	0.70	0.84	0.89	0.77	0.96	0.79
Jul-03	0.47	0.60	0.80	0.70	0.83	0.91	0.77	0.96	0.79
Aug-03	0.49	0.63	0.83	0.70	0.83	0.91	0.76	0.97	0.79
Sep-03	0.46	0.65	0.81	0.70	0.83	0.95	0.77	0.98	0.79
Oct-03	0.51	0.60	0.78	0.70	0.83	0.93	0.77	0.97	0.79
Nov-03	0.48	0.56	0.73	0.71	0.83	0.93	0.77	0.95	0.79
Dec-03	0.49	0.56	0.72	0.71	0.83	0.94	0.77	0.95	0.79
Jan-04	0.55	0.64	0.80	0.73	0.83	0.95	0.77	0.93	0.81
Feb-04	0.52	0.65	0.69	0.75	0.83	0.99	0.77	0.95	0.81
Mar-04	0.55	0.69	0.74	0.77	0.83	1.03	0.78	0.95	0.82
Apr-04	0.60	0.74	0.72	0.80	0.84	1.07	0.79	0.97	0.84
May-04	0.61	0.83	0.80	0.83	0.85	1.11	0.80	0.97	0.85

Date	Diesel	Gasoline	Asphalt	Steel Rebar	Portland Cement Concrete	Lumber	Plastic Construction Products	Construction Labor	Overall
Jun-04	0.58	0.76	0.86	0.87	0.85	1.08	0.80	0.98	0.85
Jul-04	0.62	0.80	0.88	0.91	0.85	1.08	0.81	0.99	0.86
Aug-04	0.68	0.76	0.88	0.94	0.87	1.13	0.81	1.00	0.87
Sep-04	0.71	0.77	0.91	0.95	0.89	1.13	0.81	1.01	0.88
Oct-04	0.84	0.88	0.94	0.98	0.89	1.06	0.82	1.00	0.90
Nov-04	0.80	0.83	0.86	1.00	0.89	1.00	0.82	0.99	0.90
Dec-04	0.68	0.71	0.85	1.02	0.89	1.01	0.82	0.97	0.88
Jan-05	0.71	0.75	0.75	1.03	0.92	1.02	0.83	0.95	0.89
Feb-05	0.75	0.81	0.81	1.01	0.93	1.06	0.84	0.96	0.90
Mar-05	0.87	0.91	0.87	0.97	0.93	1.07	0.85	0.96	0.93
Apr-05	0.88	0.96	0.88	0.96	0.95	1.06	0.85	0.98	0.94
May-05	0.86	0.93	0.95	0.99	0.95	1.02	0.85	0.98	0.94
Jun-05	0.94	0.94	0.93	0.97	0.95	1.05	0.85	1.00	0.94
Jul-05	0.96	1.04	0.98	0.95	0.99	1.02	0.85	1.02	0.97
Aug-05	1.01	1.12	1.03	0.93	0.99	1.00	0.85	1.02	0.98
Sep-05	1.07	1.26	1.05	0.96	0.99	1.02	0.86	1.03	1.02
Oct-05	1.33	1.22	1.11	1.00	0.99	1.01	0.92	1.03	1.04
Nov-05	1.04	0.97	1.08	0.99	1.00	0.99	0.99	1.01	1.00
Dec-05	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Jan-06	0.99	1.06	1.05	1.00	1.06	1.03	1.02	0.99	1.02
Feb-06	0.99	0.95	1.04	0.99	1.06	1.04	1.01	0.99	1.01
Mar-06	1.04	1.11	1.18	0.99	1.08	1.04	1.01	0.99	1.03
Apr-06	1.16	1.28	1.26	0.99	1.09	1.03	1.01	1.01	1.07
May-06	1.21	1.33	1.54	1.00	1.09	1.04	1.00	1.03	1.08
Jun-06	1.24	1.36	1.60	1.02	1.09	1.00	1.00	1.05	1.10
Jul-06	1.20	1.39	1.71	1.03	1.10	0.97	1.00	1.05	1.11
Aug-06	1.26	1.34	1.82	1.04	1.10	0.94	1.01	1.06	1.11
Sep-06	1.01	1.09	1.89	1.01	1.10	0.94	1.02	1.07	1.07
Oct-06	0.99	1.00	1.77	1.01	1.11	0.90	1.01	1.06	1.06
Nov-06	0.99	1.00	1.56	1.01	1.10	0.89	1.00	1.05	1.05
Dec-06	1.02	1.02	1.36	1.00	1.10	0.88	0.99	1.03	1.06
Jan-07	0.91	0.95	1.24	1.00	1.13	0.92	0.98	1.03	1.05